

## REMARKS

This Amendment is in response to the Office Action dated November 19, 2008. The Examiner has rejected claims 1-23. Claims 1, 10, 15, and 21-23 are amended. Claims 1-23 are currently pending. Reconsideration is respectfully requested in light of the following remarks.

### *Interview with Examiner*

Applicant express appreciation to Examiner Thomas West for conducting an in-person interview with Applicant on December 18, 2008. During the interview Applicant discussed the issues raised by the Examiner in the Office Action mailed November 19, 2008, details of which are described in the following sections.

### *Claim Rejections under 35 U.S.C. § 101*

The Examiner rejected claims 1-9, and 15-23 under U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Applicants believe that claims 1, 15, and 21 as amended, and related dependent claims 2-9, 16-20, 22-23, comply with 35 U.S.C. § 101 and respectfully request withdrawal of this rejection.

### *Claim Rejections under 35 U.S.C. § 102*

The Examiner rejected claims 1-3, 7, 8, 10, 11, 15, and 21 under U.S.C. § 102(b) as allegedly being unpatentable over Kermani, U.S. Patent No. 6,895,514.

Kermani discloses a system that compares “the character sequence of the just entered password as well as the keystroke timing to one or more stored password models.” [col. 2, lines 43-45.] Kermani also discloses a so-called “distance” that is “calculated as the difference between the *time lapse* between the two adjacent characters as entered by the user minus the *mean time lapse* of the model divided by the sum of the mean and the standard deviation for that character” in order to help determine the *timing score*, TS. [col. 5, lines 62-64; col. 6, lines 14-16 (emphasis added).] Kermani thus uses the term “distance” in an unconventional manner to refer to a measure of *time* variation. Moreover, Kermani does not disclose providing instructions stored on a memory for assigning a score based upon the time independent location of the

keystroke in relation to another keystroke without regard to an amount of time associated with entering the keystrokes.

Meanwhile, Applicant discloses a method for determining potentially fraudulent or randomly entered keystrokes that are located near to each other, based on relative location between keystrokes independent of time. [page 1, para. 0007.] Claim 1 includes the step of “providing instructions stored on a memory for assigning a score to succeeding keystrokes after  $k_1$  based on the time independent location of the keystroke in relation to another keystroke without regard to an amount of time associated with entering the keystrokes.” Thus, unlike Kermani, the claimed method does not rely on a time component.

For example, the name ELLEN may have a string score of  $1+6+0+6+4=17$  (based on the number of spaces between the keys), a length of 5 (based on the number of keys depressed to form the string) and thus a normalized string score of  $17/5=3.4$ . The normalized string score corresponds to *spatial variations* between keystroke locations on a keyboard. [page 2, para. 0011.] The normalized string score relies on the spatial variations between the keystroke locations without relying on temporal variations with regard to keystrokes.

Similarly, independent claims 10, 15, and 21 include assigning a score to a keystroke based upon the time independent location of the keystroke in relation to another keystroke without regard to an amount of time associated with entering the keystrokes. Accordingly, Applicant contends that independent claims 1, 10, 15, 21 and their related dependent claims 2, 3, 7, 8, and 11 are allowable. Withdrawal of this rejection is respectfully requested.

### ***Claim Rejections under 35 U.S.C. § 103***

Claims 4-6, 9, 16, 17, 20, and 23 are rejected under U.S.C. § 103(a) as allegedly being unpatentable over Kermani, U.S. Patent No. 6,895,514 in view of Brown, U.S. Patent No. 5,557,686.

Brown is cited for disclosing a method to determine a similarity between samples. [col. 5, lines 28-30.] However, Brown does not compensate for the deficiency of Kermani. Nothing in Brown teaches or suggests assigning a score to a keystroke based upon the time independent location of the keystroke in relation to another keystroke without regard to an amount of time

associated with entering the keystrokes. By contrast, Brown discloses “[u]sing *timing* characteristics of the keystrokes of the collected samples based on key press times and key release times.” [col. 2, lines 17-19 (emphasis added).]

Using time dependent analysis as disclosed in Kermani and Brown teaches away from assigning a score to a keystroke based upon the *time independent* location of a keystroke in relation to another keystroke without regard to an amount of time associated with entering the keystrokes, as required by the claimed invention. A time dependent analysis requires the consideration of keystroke timing. A time independent analysis relies on the location of a keystroke in relation to another keystroke, regardless of the timing in the keystroke. Thus, the time-based approaches to keystroke analysis provided by Kermani and Brown have an entirely different dimensional basis from the claimed invention, by relying on time variation rather than spatial variation independent of time.

Because independent claims 1, 10, 15, and 21 are patentable in view of Kermani and Brown, so are related dependent claims 4-6, 9, 16, 17, 20, and 23, which recite additional limitations. Applicant respectfully requests withdrawal of this rejection.

Claims 12-14, 18, 19, and 22 are rejected under U.S.C. § 103(a) as allegedly being unpatentable over Kermani, U.S. Patent No. 6,895,514 in view of Brown, U.S. Patent No. 5,557,686 and in further view of Kroll, U.S. Patent No. 6,405,922.

Kroll is cited for disclosing that rejected signatures entered into an ATM are stored for later analysis. [col. 4, lines 47-55.] This reference in combination with Kermani and Brown does not raise a *prima facie* case of obviousness. Kroll discloses generating a keyboard signature on an ATM, which may include *duration* of a key depression, keyboard *timing*, or *time* vectors. [col. 2, lines 13-19; col. 3, line 49; col.; col. 6, lines 40-42 (emphasized added).] Thus, neither Kermani, Brown, nor Kroll discloses, or even contemplates or suggests, assigning a score to a keystroke based upon the time independent location of the keystroke in relation to another keystroke without regard to an amount of time associated with entering the keystrokes, as required by the independent claims.

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Accordingly, Applicant contends that related dependent claims 12-14, 18, 19, and 22 are allowable, and respectfully requests that this rejection be withdrawn.

**CONCLUSION**

In light of the remarks set forth above, Applicant believes that the present application is in form for allowance, and such action is respectfully requested. Should the Examiner have any question, the Examiner is encouraged to telephone the undersigned.

The Commissioner is authorized to charge any additional fees which may be required, including petition fees and extension of time fees, to Deposit Account No. 23-2415 (Docket No. 31718-706.201).

Respectfully submitted,

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By:

  
Elaine Kim, Reg. No. 57,613

WILSON SONSINI GOODRICH & ROSATI  
650 Page Mill Road  
Palo Alto, CA 94304-1050  
(650) 493-9300  
Client No. 021971